COLARIS.12-2200

SMALL PRODUCTION INKJET PRINTER FOR CARPET-TILES AND MATS

COLARIS STANDARD FEATURES

- Extreme stable heavy-duty construction for precise prints over a long time
- Ink tanks with 5 l content
- 3-stage ink filtration and ink circulation system for trouble-free print performance
- Ink and print-head heating and cooling for constant temperature
- Automatic print head cleaning with water and vacuum extraction
- Height adjustment up to 50 mm (for sheets, tiles, pieces)
- Precise servo drives for print head and conveyor
- Windows based printing software
- Repairable Starfire print heads with 80 pl droplets

COLARIS INKJET PRINTING on

carpet-tiles and mats are getting more and more popular.

- Shortest delivery time
- Perfect match of designs and patterns
- Design styles and patterns can be realized which are not possible with tufting or weaving technology

COLARIS TILE AND MAT PRINTING LINE

BEFORE DECIDING FOR A PRINTING SYSTEM
NUMBER OF QUESTIONS SHOULD BE ANSWERED

- Which market do I want to serve, and which fastness levels are required (for carpet tiles light fastness is most important; for mats going to the laundry industry wash fastness is the key)

- Which backing (PVC, Bitumen, polyester fleece, for carpet tiles or rubber, TPE, PVC for mats…) and is my backing and carpet construction temperature proof and can it withstand steam and drying process

- Which pile material should be used (normally it will be polyamide)

- Which size of tiles or mats do I have to print?

- Which type of heating is available (gas, steam, electrical)

ZIMMER AUSTRIA can assist and guide you
to make the right and best decision!

COLARIS.TILE and **MAT PRINT LINE** is the most universal in regards of definition, color shades and penetration.

Final print result is a summary out of fiber, yarn, construction, ink, RIP and fixation process.

If needed, we can assist with our print specialists to optimize results. This is a separate service and will be charged separately.

OPTIONS TO PRINT CARPET-TILES

A) **Print on ready cut tiles**

This is the most flexible and easy way. But tiles must be very stable (normally PVC backings) and not all carpet constructions can be used

B) **Print on oversized tiles and make a final cut after printing process**

Tiles are either printed on slabs or on individual tiles which are oversized for a few mm. This is used to print on tiles which are not as stable (bitumen or TPE backings)

C) **Print on pre-coated roll goods**

This process is most efficient because backing and cutting is separated from printing process. Normally used for tiles which should get a fleece or bitumen backing.

- Tufting and pre-coating
- Printing with registration marks
- Backing
- Cutting using a tie cutter or a XY-knife cutter with camera registration system
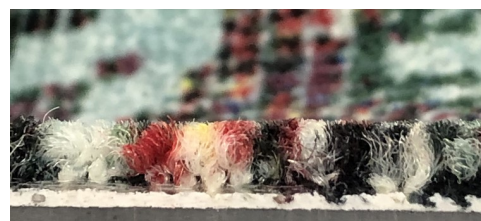
Penetration is achieved through a combination of **impregnation**, **ink-pick-up** and **penetration booster**.
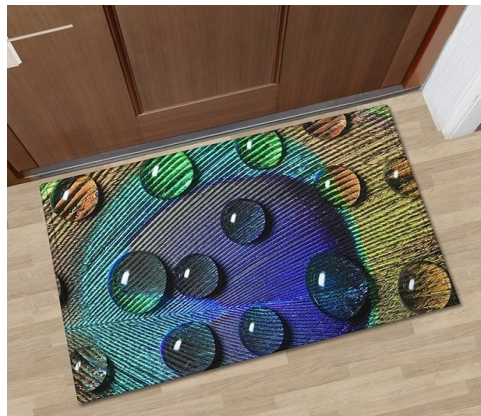
COLARIS TILE AND MAT PRINTING LINE

Tile and mat positioning device - which allows to position tiles precisely over the width. The 'fingers' can be adjusted to allow any size of piece good to be printed.

For mat printing there is also the option to have a laser-cross to align mats.

PRINT-HEAD AND INK ARRANGEMENT

6 inks are arranged symmetrical in X-direction - this avoids stripes generated by the laydown sequence.

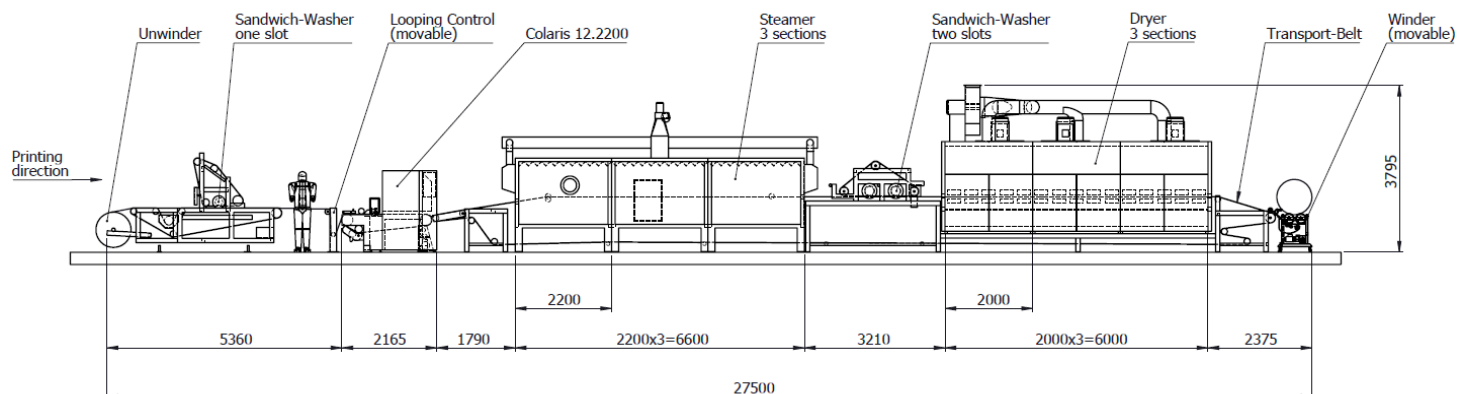The **12 PRINT-HEADS** deliver **2 x 400 = 800 dpi** resolution with one pass.
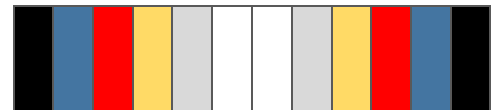
PRINT PROCESS FOR POLYAMIDE AND WOOL PILE PRODUCTS

- Pre-coating— to add moisture for best penetration and fast ink fixation. The carpet is impregnated with a mixture out of water, acid, wetting agent and thickener. The excess liquid is removed by vacuum extraction.

- Printing—this is the key process and the **COLARIS** PRINTER is the heart of a print line

- Steaming for about 5 minutes—here the dye will penetrate the fiber and gets the chemical binding for best fastness

- Washing and vacuuming—to remove unfixed dyes and chemicals

- Drying—this is the final process where the water is removed

SOFTWARE FEATURES

- **Layout** - up to 64 different designs can be loaded - each tile can have a different pattern

- **Design split** - a large design can be split over multiple tiles

- **Overprint** - the pattern is flipped over the edge to avoid unprinted edges

Unwinder | Sandwich-Washer one slot | Looping Control (movable) | Colaris 12.2200 | Steamer 3 sections | Sandwich-Washer two slots | Dryer 3 sections | Transport-Belt | Winder (movable)

Printing direction

3795

5360 | 2165 | 1790 | 2200 | 2200x3=6600 | 3210 | 2000 | 2000x3=6000 | 2375

27500

Depending on requirement - **ZIMMER AUSTRIA** builds tailor made print lines based on latest process know-how.
*The layout proposal above is only an example how a **COLARIS** carpet-tile print line could look like.*

APPLICATIONS

- Carpet-tile or carpet mat printing
- Roll-to roll printing with additional unrolling, accumulator and roll-up unit (optional)

RECOMMENDED ACID INKS FOR POLYAMIDE AND WOOL

Black, Blue, Red, Gray, Yellow and Penetration-Booster

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Visit our Homepage
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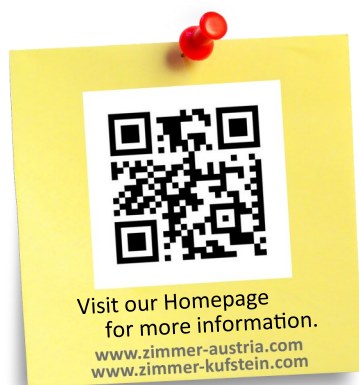
COLARIS - Small Production Print-Line

Electric requirements	3 PH, 400/230 V, 50 or 60 cycles
Electrical load and consumption	Connected load is about 200 kVA Average power consumption is about 100 kW
Air supply	6-8 bar; oil-free and dust-free
Water consumption	2-3 bar soft water; about 1-2 m³ per hour
Steam consumption	approx. 200-300 kg per hour at about 6 bar
Space required	About 8 x 30 meter
Max. print width	2200 mm
No. of colors	6 (Black, blue, red, gray, yellow, penetration booster)
Print heads per color	2 StarFire™ *with 80 picolitre native drop size*
Print resolution "X"	From 400 to 1,600 dpi
Print resolution "Y"	400 to 3200 dpi (in steps of 400 dpi)
Linear print capacity with 2 heads per color	145 m²/hour at 400*800 dpi 85 m²/hour at 400*1600 dpi
Tile, mat or sheet goods	*Piece good is about 30% slower in comparison to roll-to-roll production. Pieces up to 2x1 m in size can be printed.*

INNOVATION   **QUALITY**   **SERVICE**

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